1   We Claim:

1.   An L2/L3 network comprising:

a plurality of MPLS-enabled bridges;

an MPLS-enabled router; and

5   a plurality of label switched paths interconnecting respective bridges and the router,

wherein the bridges bridge local protocol data units, and switch non-local protocol data units to the router on respective ones of the plurality of label switched paths,

10   whereupon the router routes the non-local protocol data units.

2.   The L2/L3 network according to claim 1, wherein the label switched paths over which to send the non-local protocol data units are selected as a function of a virtual local area network associated with each non-local protocol data unit.

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3.   The L2/L3 network according to claim 1, wherein determination of whether the protocol data units are non-local is made as a function of a MAC address in each protocol data unit.

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4.   The L2/L3 network according to claim 1, wherein the router is capable of routing the protocol data units using IPX, IPv4, IPv6 or AppleTalk protocol.

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5.   The L2/L3 network according to claim 1, wherein the router is capable of removing an MPLS label from a respective one of the protocol data units.

30   6.   The L2/L3 network according to claim 5, wherein the router removes the MPLS label from the respective protocol data unit prior to routing if the MPLS label indicates that penultimate hop pop function of popping the MPLS label is to be performed.

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7.   The L2/L3 network according to claim 5, wherein the router removes the MPLS label from the respective protocol data unit prior to routing if lookup of the MPLS label indicates that the MPLS label is to be popped.

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8.   The L2/L3 network according to claim 1, wherein each label switched path comprises one or more label switching routers.

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9.   The L2/L3 network according to claim 1, wherein the router operates as an ingress label switching router, as an egress label switching router, and as a label switching router at substantially same time at substantially line rate.

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10.   A method of forwarding protocol data units in an L2/L3 network comprising a plurality of MPLS-enabled bridges and an MPLS-enabled router interconnected over a plurality of label switched paths, the method comprising the steps of:

bridging local protocol data units from the bridges;

switching non-local protocol data units from the bridges to the router over respective ones of the plurality of label switched paths; and

routing the non-local protocol data units using the router.

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11.   The method of forwarding according to claim 10, wherein the label switched paths over which to send the non-local protocol data units are selected based on a virtual local area network associated with each protocol data unit.

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12.   The method of forwarding according to claim 10, wherein determination of whether the protocol data units are non-local is made as a function of a MAC address in each protocol data unit.

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13. The method of forwarding according to claim 10, wherein the non-local protocol data units are routed using IPX, IPv4, IPv6 or AppleTalk Protocol.

14. The method of forwarding according to claim 10, the method further comprising the step of removing an MPLS label from respective one or more of the non-local protocol data units.

15. The method of forwarding according to claim 14, wherein the removing step comprises the step of removing the MPLS label from the respective non-local protocol data unit prior to routing if the MPLS label indicates that penultimate hop pop function of popping the MPLS label is to be performed.

16. The method of forwarding according to claim 14, wherein the removing step comprises the step of removing the MPLS label from the respective non-local protocol data unit prior to routing if lookup of the MPLS label indicates that the MPLS label is to be popped.

17. The method of forwarding according to claim 10, wherein each label switched path comprises one or more label switching routers.

18. The method of forwarding according to claim 10, wherein the router operates as an ingress label switching router, as an egress label switching router, and as a label switching router at substantially same time at substantially line rate.

19. A method of forwarding a packet in an MPLS network comprising an MPLS-enabled router and a plurality of MPLS-enabled VLAN bridges, the method comprising the steps of:

attaching a first MPLS label to the packet in one of the VLAN bridges in accordance with a VLAN associated with the packet;

1   sending the packet to the router over a first MPLS
tunnel from said one of the VLAN bridges; and
    routing the packet to another one of the VLAN bridges.

5   20.   The method of forwarding according to claim 19, the
method further comprising the step of label swapping the first
MPLS label with a second MPLS label prior to forwarding the
packet, wherein the packet is forwarded over a second MPLS
tunnel.

10   21.   The method of forwarding according to claim 19, the
method further comprising the steps of removing the first MPLS
label and routing the packet using IPX, IPv4, IPv6 or AppleTalk
protocol.

15   22.   The method of forwarding according to claim 21,
wherein the packet is forwarded to an external network using IPX,
IPv4, IPv6 or AppleTalk protocol.

20   23.   The method of forwarding according to claim 21, the
method further comprising the step of attaching a second MPLS
label, wherein the packet is forwarded over a second MPLS tunnel,
and wherein the second MPLS tunnel can comprise same label
switching routers as the first MPLS tunnel.

25   24.   The method of forwarding according to claim 19,
further comprising the steps of removing the first MPLS label,
bridging the packet, and attaching a second MPLS label to the
packet, wherein the packet is forwarded over a second MPLS
30   tunnel, and wherein the second MPLS tunnel can comprise same
label switching routers as the first MPLS tunnel.

    25.   A communication network, the network comprising:
        a plurality of first nodes having no actual routing
35   capability;

1   a second node having an actual routing capability; and

           at least one interconnection between each first node
and said second node,

           wherein each first node interacts with said second

5   node over said at least one interconnection between said first
node and said second node to provide an emulated routing
capability to said first node.

     26. The network according to claim 1, wherein said

10   interaction includes transmitting at least one data unit for
routing from said first node to said second node on at least one
label switched path established on said at least one
interconnection between said first node and said second node.

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